

WHAT IS CLAIMED IS:

1. A process for the synthesis of derivatives comprising a hydrofluoromethylenesulfonyl radical comprising:
 - 5 a) a stage of condensation in a solvent of a sulfide of alkyl and of a cation (thiolate) with a compound exhibiting a carbon of sp^3 hybridization carrying a hydrogen, a fluorine, a heavy halogen, chosen from chlorine, bromine and iodine, and an electron-withdrawing group chosen from fluorine and those for which the σ_p value is at least equal to 0.2, advantageously to 0.4;
 - 10 b) a stage of oxidation, advantageously of halogenation, preferably of chlorination or of bromination, in the presence of an aqueous phase; said solvent of stage a) being chosen from water-immiscible solvents, from aqueous phases and from the two-phase combination of a water-immiscible solvent and of an aqueous phase, said aqueous phases comprising at most 1/3 by weight of water-miscible nonaqueous solvent; the ratio of the amount in equivalents of the alkyl sulfide to the amount in moles of water being at most equal to 20 50.
2. The process as claimed in claim 1, characterized 30 in that the aqueous medium of stage a) additionally comprises a strong base with a pKa of the associated acid at least equal to 10, advantageously to 12, preferably to 14, the amount of which, expressed in equivalents, is advantageously at least equal to 5% of the amount 35 of said thiolate (R-S-M).

3. The process as claimed in claims 1 and 2, characterized in that the aqueous medium of stage
5 a) additionally comprises a strong base pKa advantageously at most equal to one times the amount of said thiolate (R-S-M).
4. The process as claimed in claims 1 to 3, characterized in that the alkyl is either tertiary or an aralkyl of benzylic nature.
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5. The process as claimed in claim 1 to 4, characterized in that, in stage a), the molar ratio of the amount of a possible polar solvent, expressed in moles, to the sum, expressed in equivalents, of the cations of the sulfide and of the possible base is at most equal to 1 and advantageously at most equal to 1/2, preferably to 1/10.
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- 20 6. The process as claimed in claims 1 to 5, characterized in that the electron-withdrawing group is chosen from fluorine and the Rf groups; the term "Rf" is understood to mean a radical of formula:
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- EWG'-(CX₂)_p-
- 30 - where the X groups, which are alike or different, represent a chlorine, a fluorine or a radical of formula C_nF_{2n+1}, with n being an integer at most equal to 5, preferably to 2, with the condition that at least one of the X groups is fluorine, fluorine advantageously carried by the carbon connected to the sulfur;
35 - where p represents an integer at most equal to 2;
- where EWG' represents an electron-withdrawing group (that is to say, σ_p greater than zero, advantageously than 0.1, preferably than 0.2),

the possible functional groups of which are inert under the conditions of the reaction, advantageously fluorine or a perfluorinated residue of formula C_nF_{2n+1} with n being an integer at most equal to 8, advantageously to 5.

7. The process as claimed in claims 1 to 6, characterized in that the total carbon number of Rf is advantageously between 1 and 15, preferably between 1 and 10.

8. The process as claimed in claims 1 to 7, characterized in that the electron-withdrawing group is fluorine and said compound is R-22.

9. The process as claimed in claims 1 to 8, characterized in that the ratio of the water, expressed in moles, to the cation, expressed in equivalents, is at least equal to 4, advantageously to 6, preferably to 8.

10. The process as claimed in claims 1 to 9, characterized in that said cation is monovalent.

25 11. The process as claimed in claim 1 to 10, characterized in that said cation is chosen from phosphonium, quaternary ammoniums and alkali metals, advantageously the latter.

30 35 12. The process as claimed in claims 1 to 11, characterized in that, when it is desired to obtain an acid halide, stage b) is carried out either in the presence of a dissociated salt dissolved in the reaction mixture or by maintaining a pH within the range from 4 to 9, advantageously from 5 to 8, and, when it is desired to obtain an acid, in a strong acid and not very saline medium.

13. The process as claimed in claims 1 to 12,
characterized in that the temperature is then
advantageously at least equal to 80°C.

5 14. The process as claimed in claims 1 to 13,
characterized in that the halide R-E is used to
reform an alkyl sulfide.